

Claims:

1. A method of selecting reception of one of a plurality of radio frequency channels by a portable radio frequency receiver capable of receiving each of the plurality of channels, the method comprising the steps of:

measuring a signal quality for each of the plurality of channels;

choosing one of the plurality of channels if its corresponding signal quality is substantially better than all other of the plurality of channels; or

determining if at least two of the plurality of channels have substantially similar signal qualities; and

selecting one of the two channels in response to the one channel having a higher determined priority relative to other of the at least two channels.

2. The method according to claim 1 wherein the plurality of radio channels include digital information modulated upon a multiplicity of symbols transmitted at a predetermined symbol rate and

said step of measuring signal quality determines a received quality for a plurality of the multiplicity of symbols.

3. The method according to claim 1 wherein the plurality of radio channels include digital information modulated upon a multiplicity of symbols transmitted at a predetermined symbol rate, the multiplicity of symbols including pilot signals and

said step of measuring signal quality further comprises the steps of:

determining a presence of the pilot signals; and

determining a received quality for a plurality of the multiplicity of symbols.

4. The method according to claim 1 wherein the receiver stores the plurality of channels in a list having the plurality of channels stored in a predetermined sequence and the determined priority of each of the plurality of channels corresponds to its predetermined sequence in the list.

5. The method according to claim 4 wherein the predetermined sequence is determined by a coverage area of each channel of the plurality of channels wherein a channel with a larger coverage area has the higher determined priority than a channel with a smaller coverage area.

5 6. The method according to claim 1 wherein the receiver stores the plurality of channels in a list, each channel having a corresponding handicap value and said step of selecting further comprises the steps of:

combining the handicap value with each corresponding signal quality value to produce a handicapped signal quality value for each of the at least two channels; and

10 prioritizing the at least two channels in response to said step of combining wherein the channel with the higher determined priority has a better handicapped signal quality value.

7. The method according to claim 1 wherein
said step of measuring measures a signal quality value corresponding to each of the
15 plurality of channels,

said step of choosing chooses the one of the plurality of channels if it has a signal quality value more than a predetermined amount greater than corresponding signals quality values of other of the predetermined channels, and

20 said step of determining determines if the at least two channels are substantially similar if a difference between the corresponding signal quality values of the at least two channels is less than another predetermined amount.

8. The method according to claim 7 wherein the receiver stores the plurality of channels in a list having the plurality of channels stored in a predetermined sequence and the determined
25 priority of each of the plurality of channels corresponds to its predetermined sequence.

9. The method according to claim 7 wherein the list further includes a corresponding handicap value and said step of selecting further comprises the steps of:

30 combining the corresponding handicap value to each of the corresponding signal quality values to produce a handicapped signal quality value for each of the at least two channels; and

prioritizing the at least channels in response to said step of combining wherein the channel with the higher determined priority has a greater handicapped signal quality value.

10. A scanning receiver for selecting one of a plurality of radio frequency channels

5 comprising:

a signal quality detector for measuring a signal quality of each of the plurality channels;

a scan table having a priority signal corresponding to each of the plurality of channels;

and

10 a channel selector for determining if the signal quality of at least two highest signal quality channels is substantially similar and then selecting from the determined channels in response to the corresponding priority signal.

11. The scanning receiver according to claim 10 wherein the channels communicate message information modulated at a predetermined symbol rate and further comprising:

15 a receiver for receiving and demodulating the message information from each of the plurality of frequency channels; and

a signal processor for determining the signal quality of each of the plurality of channels in response to the demodulated message information wherein the signal quality is determined in response to a phase noise measurement of the predetermined symbol rate.

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12. The scanning receiver according to claim 10 wherein the plurality of channels communicate message information modulated at a predetermined symbol rate having pilot symbols for determining packet boundaries and further comprising:

25 a receiver for receiving and the demodulating message information from each of the plurality of channels; and

a signal processor for determining the signal quality of each of the plurality of channels in response to the demodulated message information wherein the signal quality is determined in response determination of packet boundaries and further in response to pilot symbols and further in response to a phase noise measurement of the predetermined symbol rate.

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13. The scanning receiver according to claim 10 wherein

said scan table stores a value indicative of each of the plurality of channels in a predetermined sequence and the priority signal of each channel corresponds to the position in the sequence and

said channel selector selects from the determined channels in response to the
5 corresponding position in the sequence.

14. The scanning receiver according to claim 10 wherein

said scan table stores a value indicative of each of the plurality of channels and a corresponding priority signal indicative of a handicap value, and

10 said channel selector combines the signal quality and handicap for each of the determined channels to produce a handicap signal quality value and selects from the determined channels in response to the handicap signal quality value.

15. The scanning receiver according to claim 14 wherein

15 said scan table stores the value indicative of each of the plurality of channels in a predetermined sequence and the priority signal of each channel further corresponds to the position in the predetermined sequence and

said channel selector further determines if the handicap signal quality of at least two of the highest signal quality frequency channels is substantially similar and selects from the further
20 the determined channels in response corresponding position in the sequence.

16. A method of selecting reception from one of a plurality of radio frequency channels by a portable radio frequency receiver capable of receiving each of the plurality of radio frequency channels, the comprising the steps of:

25 measuring a signal quality for each of the plurality of channels;

combining a corresponding handicap signal with the signal quality to produce a handicapped signal quality for each of the plurality of channels; and

selecting from the plurality of channels a channel having a best handicapped signal quality.

17. The method according to claim 16 wherein the handicap signal for each of the channels is indicative of a relative coverage area for each of the corresponding channels.

5 18. The method according to claim 16 wherein the receiver stores the channels in a list having the plurality of channels stored in a predetermined sequence and the predetermined priority of each channel further corresponds to the sequence of the channel in the list and said step selecting further includes the steps of:

determining if at least two of the plurality of channels have substantially similar handicapped signal qualities; and

10 selecting one of the two channels in response to the one channel having a higher predetermined priority sequence relative to the other of the at least two channels.

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